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July 29, 1991

Ms. Donna R. Searcy
Secretary
Federal Communications Commission
1919 M Street, NW
Washington, D.C. 20554

Dear Ms. Searcy:

On behalf of Ellipsat Corporation, I am transmitting herewith an original and four copies of its Request for Pioneer's Preference in connection with the licensing of its proposed ELLIPSO™ satellite system. Separately and concurrently herewith, Ellipsat is submitting a related petition for rulemaking and application for experimental license.

Should there be any questions concerning this matter, kindly communicate with the undersigned.

Very truly yours,

Jill Abeshouse Stern

Jill Abeshouse Stern

JAS:bym
Enclosures
cc: Rodney Small
Tom Tycz
Cecily Holiday
Fern Jarmulnek

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
ELLIPSAT CORPORATION	)	File No.
	)	
Request for Pioneer's Preference	)	
	)	

REQUEST FOR PIONEER'S PREFERENCE

Ellipsat Corporation ("Ellipsat"), by its attorneys and pursuant to Commission Rule 1.402, hereby submits its request for a pioneer's preference in the licensing of its proposed ELLIPSO™ satellite system.

I. INTRODUCTION

On November 5, 1990, Ellipsat filed the first application for a low earth orbiting satellite system in the RDSS bands (1610-1626.5 MHz and 2483-2500 MHz).[1] In its application, which was accepted for filing on April 1, 1991,[2] Ellipsat described its plan to introduce nationwide mobile voice and position determination services via small elliptical low earth orbit satellites. The ultimate satellite constellation envisioned by

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[1] Application of Ellipsat Corporation, filed November 5, 1990, and Technical Clarification and Erratum, filed January 30, 1991 (File No. 11-DSS-P-91(6)) (hereinafter "ELLIPSO™ I Application").

[2] See Public Notice, Report No. DS-1068, DA 91-407 (released April 1, 1991).

Ellipsat would consist of twenty-four satellites in an elliptical orbit, designed to maximize U.S. coverage with a minimum number of satellites. Authority to construct ELLIPSO™ I, the introductory phase of the system consisting of six satellites, was sought in the November 5, 1990 application. Eighteen ELLIPSO™ II satellites, to enhance coverage and capacity of the system, were described in a second application filed June 3, 1991, in which Ellipsat sought authority to construct these additional enhanced satellites.[3] In both applications, Ellipsat claimed entitlement to a pioneer's preference.[4]

As the first applicant to file, Ellipsat pioneered the use of the RDSS bands for expanded communications services. In addition, the ELLIPSO™ system represents the first proposed commercial use of elliptical orbits. The elliptical orbit is uniquely designed to provide maximum coverage of the United States with a minimum number of satellites thereby allowing reduced costs to the consumer, among other benefits.

Ellipsat has proposed an innovative system design that uses existing state-of-the-art technology in a novel fashion.[5] It was

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[3] Application of Ellipsat Corporation, filed June 3, 1991 (hereinafter "ELLIPSO™ II Application").

[4] ELLIPSO™ I Application at 3; ELLIPSO™ II Application at 5.

[5] No applicant, including Ellipsat, can take sole credit for small satellite technology or the concept of a non-geostationary satellite orbit, both of which have been used by the military and scientific communities. See Rains, Smaller Satellites Brushing Skeptics Aside, Space News, Aug. 6, 1990 at 8.

the first to recognize that this technology could be used to provide cost-effective mobile voice and position location services. Among the innovative features of its system design are: high-quality, low-cost RDSS and mobile voice services; transparent interconnection between terrestrial cellular and satellite communications capability; and use of code division multiple access (CDMA) techniques to ensure multiple entry and maximize spectrum utilization.

Ellipsat has met all requirements for entitlement to a pioneer's preference. Separately and concurrently herewith, Ellipsat is filing a Petition for Rulemaking to amend the RDSS rules, if and as necessary, to permit combined mobile voice and RDSS services in the subject bands. Ellipsat is also filing, concurrently herewith, an application for an experimental license to facilitate testing and demonstration of the ELLIPSO™ system.

II.
ELLIPSAT'S INNOVATIVE SYSTEM QUALIFIES FOR A PIONEER'S PREFERENCE

The innovative ELLIPSO™ satellite system proposal will substantially enhance the existing radiodetermination satellite service and should therefore be awarded a pioneer's preference in the licensing process.

In May 1991, the Commission adopted new rules establishing the pioneer's preference as a means of rewarding innovators of

new technology and services.[6] The preference is designed to encourage new and innovative communications services by inducing innovators to present their proposals to the Commission in a timely manner.[7] In the Pioneer's Preference Order, the Commission expressed concern that administrative procedures, including the perceived regulatory burden posed by spectrum allocation and licensing procedures, could discourage potential pioneers from seeking authorization of new services, and ultimately rob American consumers of the early benefit of new technologies and services.[8]

In defining eligibility for a preference, the Commission included proposals for a new radio service, proposals for a new technology used to improve an existing service by significantly improving spectrum efficiency, and proposals that promise to enable the sharing, or co-use, of allocated spectrum.[9] The Commission looks to see whether the petitioner "has brought out the capabilities or possibilities of the technology or service or has brought them to a more advanced or effective state."[10] As the Commission stated:

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[6] See Report and Order, General Docket No. 90-217, FCC 91-112, released May 13, 1991 (hereinafter "Pioneer's Preference Order").

[7] Id. at para. 18.

[8] Id.

[9] Id. at para. 37.

[10] Id. at para. 48.

> We believe that an innovation could be an added functionality, a different use of the spectrum than previously available, or a change in the operating or technical characteristics of a service, any of which involve a substantial change from that which existed prior to the time the preference is requested. Further, technologies that yield efficiencies in spectrum use, speed or quality of information transfer, or spectrum sharing or which significantly reduce costs to the public, will be given careful consideration. We do not intend these factors to be all inclusive, but rather to provide some guidance to further communicate the standard noted above.[11]

Ellipsat fully meets the foregoing standards for award of a pioneer's preference as established by the Commission. The ELLIPSO™ system represents the kind of technological and operational innovation the Commission seeks to encourage. The system combines state-of-the-art technology in a highly innovative and spectrum efficient fashion to bring both position determination and concurrent voice services to the public. The use of small satellites, low-earth orbit, and a minimum ground segment ensures rapid implementation and lower costs to the public. The mobile voice services will provide an economic base for the RDSS service, and will complement terrestrial cellular telephone services by providing those services to currently unserved rural areas as well as to current and future cellular subscribers who roam beyond their coverage areas. The system is also designed to grow with and accommodate future market demand for service, within the United States and internationally.

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[11] Id. (emphasis added).

The ELLIPSO™ system will also introduce elliptical satellite orbits for the first time in a U.S. commercial satellite application. The elliptical orbit is a unique feature of the system and prolongs the length of time each satellite passes over the United States. As a result, coverage of the United States is maximized with a minimum number of satellites. Other innovative aspects of the system include the provision of position location using the Geobeacon ranging system; an easily implemented system requiring a minimal number of satellites and a minimum ground segment; use of CDMA techniques to maximize spectrum utilization and permit multiple entry; "seamless" connections between terrestrial and satellite systems to avoid gaps in coverage; and integration with the public telephone network.

Not only will ELLIPSO™ expand the range of communications services available using an innovative system design, but the system will make these services available rapidly and on a cost-effective basis. Reduced cost to the public, as noted above, is also a factor considered by the Commission in awarding a pioneer's preference.[12] ELLIPSO™ will provide nationwide coverage less expensively and more efficiently than any known technology. Economies to the end-user will result from the ELLIPSO™ system's low orbital characteristics, use of small satellites, and ground system and user equipment design.

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[12] Id.

Ellipsat has consciously designed its system to minimize cost of service to the public, and believes that it will make possible, for the first time, satellite-based services at a cost comparable to terrestrial services.

The ELLIPSO™ system is innovative and entitled to a preference under the criteria established by the Commission. It will improve an existing service (RDSS) through, among other things, efficiencies in spectrum use. Through CDMA and frequency re-use, ELLIPSO™ will efficiently use available RDSS spectrum to offer expanded mobile services without displacement of existing or future users. Moreover, ELLIPSO™ facilitates spectrum sharing by providing opportunities for new and multiple entry. ELLIPSO™ can coexist with other systems, and permit licensing of additional users in the band. In addition, as noted, Ellipsat will significantly reduce costs to the public through the use of small satellites, a non-complex satellite configuration, and other innovative features of the system.

III.
ELLIPSAT HAS FULLY MET THE REQUIREMENTS OF RULE 1.402 FOR CLAIMING A PREFERENCE

Ellipsat has fully met the requirements set forth in Commission Rule 1.402 for claiming a pioneer's preference. As noted, Ellipsat is submitting, concurrently herewith, a petition for rulemaking and an application for experimental license.

The petition for rulemaking seeks amendment of the Commission's rules, if and as necessary, to implement the

ELLIPSO™ system. Ellipsat believes that its system conforms to all existing rules now applicable to the RDSS bands, and that combined mobile voice and RDSS services can be authorized pursuant to a waiver.[13] However, to the extent that amendment of the Commission's rules is deemed necessary to authorize combined voice and RDSS services, the Commission is urged to take appropriate action.

The experimental license application submitted by Ellipsat outlines a program of experimentation and testing that consists of four phases: (1) lab tests and simulation; (2) field tests using prototype equipment; (3) operation of two in-orbit satellites, and related ground segment, to perform experimentation related to the communications link, attitude control and doppler effect, among other matters; and (4) operation of five additional in-orbit satellites, and related ground segment, for the purpose of testing and experimentation involving such operational details as satellite hand-offs, coverage, system integration, beam utilization and optimization.

Ellipsat is requesting that a preference be granted on a nationwide basis. Because of the nature of satellite communications, a more limited geographical area cannot realistically be defined. Ellipsat's plan for implementing

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[13] Ellipsat has elsewhere detailed the Commission precedent supporting a waiver in these circumstances. See, e.g., Ellipsat Corporation, Petition for Rulemaking, filed July 30, 1991, at 3, n.5. See also ELLIPSO™ I Application at 38-9, n.5; ELLIPSO™ II Application at 48-9.

service is fully detailed in its applications of November 5, 1990 and June 3, 1991, and the relevant discussion in those applications is incorporated herein by reference.

IV.

CONCLUSION

Ellipsat has fully demonstrated its entitlement to a pioneer's preference, and urges the Commission to grant a preference as quickly as possible so that the ELLIPSO™ system -- and the publicly beneficial services it will provide -- may be expeditiously authorized.

Respectfully submitted,

ELLIPSAT CORPORATION

By Jill Abeshouse Stern

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